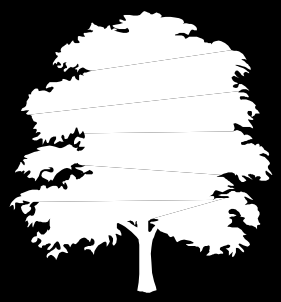
City of Tigard

Street Tree List



Introduction

By planting trees in the City of Tigard we are attempting to make our community a nicer place to live. We are improving the environment for our children, our grandchildren, and ourselves. These trees throughout our city must be cared for properly. Community trees that are well cared for can be a source of pride, great satisfaction, and environmental enhancement. Some examples of ecological benefits of trees include:

- Production of clean oxygen.
- Removal of carbon dioxide from the air.
- Filter pollution from air, water, and soil.
- Wildlife habitat.
- Provide cool shade in the summer.
- Uplift human spirits.

A very important aspect of planting trees throughout the city is choosing the right tree for the right place. This Street Tree List was created to assist Tigard homeowners, businesses, and developers in choosing appropriate trees for proper urban planting sites. Selecting improper trees for planting sites can result in various conflicts including, but not limited to:

- Tree(s) being severely deformed from pruning because of overhead utilities.
- Damage to sidewalks, pavement, or underground utilities caused by tree roots.
- Extensive root loss due to soil compaction, root pruning, or root flare damage, all of which could create very hazardous conditions.
- Trees dying due to limited soil volume, limited growing space, or sensitivity to urban stresses.

By choosing the right tree for the right location a lot of time and money may be saved in necessary tree maintenance, utility conflicts, sidewalk and roadway repairs, and tree removal requirements.

This document focuses on street trees because of the importance of selecting the proper tree(s) to minimize the conflicts between the needs of humans and trees. The information may also be used as a guide for selecting trees in parks, residential properties, businesses, and other desirable tree planting sites.

Right Tree in the Right Place

Improperly selecting a tree for the given growing site is the most common cause for tree mortality in the urban environment. Soil compaction, under-watering, over-watering and vandalism also contribute to the death of urban trees.

City Codes

City code regulations can establish numerous guidelines relating to trees. Some examples of city code regulations can include proper tree spacing during planting, visual, pedestrian, and vehicular clearance, tree protection requirements during construction, landscaping, buffering, and screening standards, hazard-tree removal, public right-of-way maintenance, tree planting, maintenance (watering, mulching, pruning), and removal, and finally, tree retention for the protection of natural resources.

Please be sure to obtain a copy of the Tigard Development Codes before planting any trees within a public right-of-way. Just because a tree from the Street Tree List seems suitable for the planting area, there may be conflicts within the City Code that may restrict tree placement. A copy of the municipal codes can be obtained on the web at ***www.tigard-or.gov.***. Codes specifically referring to trees include 7.40.050, 7.40.060, 7.40.090, 18.385, 18.745, 18.775, 18.790, & 18.795.

Community Involvement

Your selection of a tree to be planted within the public right-of-way will have an effect on numerous people throughout the community. Since most trees have the potential to outlive the people who plant them, the selection process should be carefully done. Although community input is not required to plant street trees, involving your neighbors in the tree selection process may be a way to bring people together who share a common interest in trees. Since many trees require year-round maintenance, you and your neighbors can share in the responsibility of providing water and mulch or performing the necessary pruning. As a result, more and more trees may be planted throughout your community which can have a very positive effect on property values, wildlife habitat, clean air production, pollution filtering, and human spirits.

Limited Growing Space

Limited growing space is one of the most restrictive barriers to selecting street trees. Limited growing space restrictions can include width of planting strip, overhead utilities, adjacent buildings, structures or vegetation, available soil volume, and underground utilities. Accurately assessing all of the limits of the growing space will minimize the potential future conflicts between the needs of people and the needs of the tree(s).

Local Climate & Soil Types

The Street Tree List does not include palm trees and for good reason. The species of trees that were selected have been shown to survive well in the climate of the Pacific Northwest based on the USDA Plant Hardiness Zone Map. Each tree species will adapt differently to the climate here in the Pacific Northwest than in their native environment.

For example, the sugar maples tend to have more brilliant autumn foliage in their native New England than they do in the Pacific Northwest.

Soil types in the urban environment can vary greatly from site to site or even within a few feet. In some places the soil may be very fertile, deep, and well-drained. In the same vicinity the soil may be shallow, compacted, and infertile. Due to the extreme and inconsistent modifications made to topsoil and subsoil layers during construction of roads, houses, buildings, sidewalks, and other urban structures, determining the exact soil type of the planting site may be quite difficult. Obtaining soil samples for analysis of the existing soil type can be very beneficial to the trees. The analysis will pinpoint the soil's nutrient deficiencies so proper amendments may be made to improve the soil's content.

Modification of the soil structure in the urban environment occurs mainly through compaction. Heavy machinery quickly compacts the soil making it impossible for air and water to penetrate for the benefit of the trees. Erosion and increased water run-off occur which in turn adversely affect the local waterways.

Tree Species Omission

Numerous tree species and cultivars were not included in the Street Tree List for many reasons specific to each tree species or cultivar. Some trees are considered to be nuisances due to their foul smelling fruit or their destructive root systems. Some trees produce large fruits that can clog gutter drains or attract bees as they begin to rot. Other trees are very sensitive to the urban environment and tend to have very low survival rates. There are certain species of trees that have very shallow roots that will not support the tree reliably. Some trees have poor branching patterns or structure, which make them unsuitable in the urban environment.

Although every attempt was made to include a wide variety of tree species there are surely some very appropriate trees that were unintentionally omitted. If there is a tree species not included in this Street Tree List which you feel should be included please contact the City Forester at (503) 639-4171.

Tree Planting Guidelines

Planting Hole (See Figure 1)

1. The planting hole should be two to three times wider than the width of the diameter of the root ball. It is important to make the planting hole wide because the roots on a newly planted tree must be able to enter the surrounding soil easily to establish effectively. If the surrounding soil is compacted, an area up to five times the width of the root ball should be broken up for better root establishment.

2. The depth of the hole should be the same depth as the root ball. The bottom of the hole should be firm to prevent the root ball from sinking into unsettled soil. The root collar (the area at the base of the tree that flares out, just above the roots) should be level with the ground. Measure the depth carefully before placing the tree into the hole since it will be difficult to remove the heavy root ball out of the hole. The majority of the tree roots will develop within the first 12" of soil, so planting at the correct depth is important. If the tree is planted too deep then the roots will have trouble developing due to the lack of oxygen. Additionally, planting the tree too deep can rot the root collar, which in turn can girdle and ultimately kill the tree. Planting the tree too high can prevent the existing roots from entering the surrounding soil effectively. The roots near the surface may also dry out from exposure to wind or the sun. Finally, planting trees too high can increase the chances that the roots will cause sidewalk and/or pavement damage such as lifting and cracking.

3. Gently place the root ball into the hole. If the root ball has burlap and a wire cage, cut as much burlap off as possible, especially if it is treated (the burlap will be green). Remove as much of the wire basket as well. Make sure that at least the upper part of the burlap and basket get removed or folded down. If possible, fold down the lower part of the basket. Removing or folding down the burlap and wire basket will prevent interference with the roots as they grow.

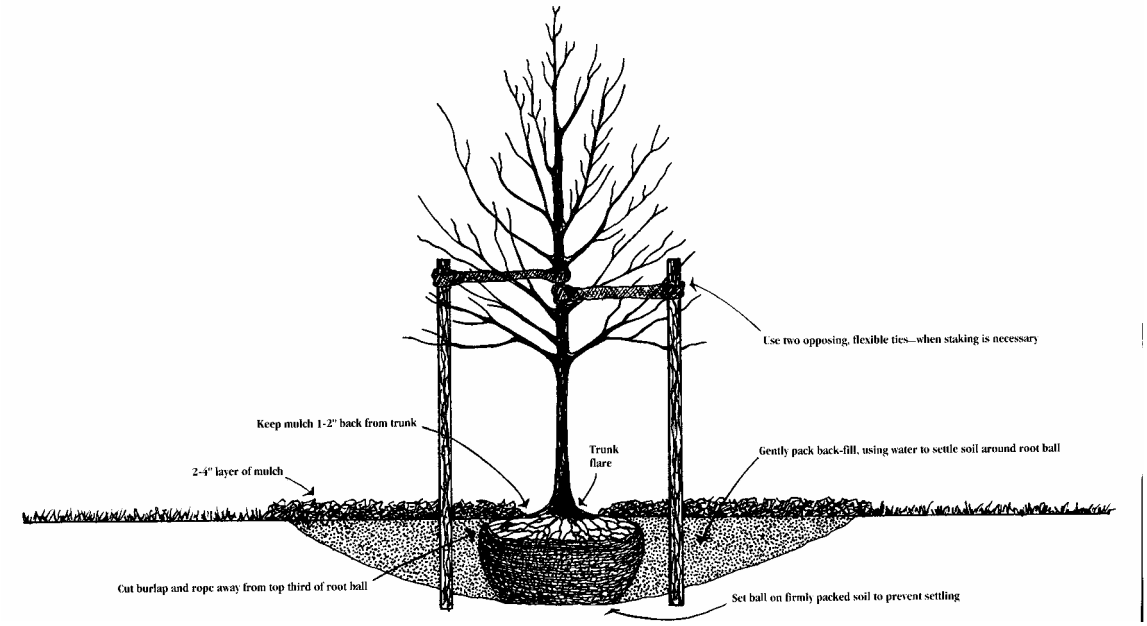
4. Make sure the tree trunk is vertical. Backfill the hole with the native soil. If the soil quality is unsuitable for root growth then mix ordinary soil with small amounts of soil additives such as mulch, peat moss, shredded leaves, etc. Amending the soil with a lot of peat moss, mulch, or sand may be detrimental to the tree in the long run. The tree roots will have adapted to the nutrient-rich soil in the planting hole and may not extend into the native soil, particularly if it is poor quality soil. Begin lightly packing the soil with your hands or foot when 1/3 of the hole has been filled. Packing the soil will fill air pockets that could dry out any surrounding tree roots. Continue lightly packing the soil as the rest of the hole is filled. Be careful to avoid placing soil around the root collar. Avoid fertilizing the tree at the time of planting.

Surface Treatments (See Figure 1)

1. Add mulch around the base of the tree and out to the edge of the planting hole. Make sure that the mulch is not bunched around the base of the tree trunk. This could have the same results as planting the tree too deeply. The mulch could easily rot and girdle the lower portion of the trunk that could kill the tree. The mulch should be no more than 3-4" deep. Use leaf litter, shredded bark, wood chips, peat moss, or high quality compost as mulch. Mulch serves several very useful purposes including:

    - slow release fertilizer
    - weed and erosion control
    - root protection from wind and hot sun
    - prevents damage from lawn mowers and weed whackers
    - improves water infiltration and retention
    - improves soil structure

2. Stake the tree only if necessary. If the tree cannot stand upright then staking, in conjunction with flexible tie material, is required. Staking may also be necessary for very large trees that have been transplanted with small root balls. Without the support of stakes and flexible tie material the large canopy tree may blow over during strong winds. Staking may also discourage vandalism and may lower incidents of injury from lawn mowers and weed whackers. **Stakes and ties that act as support for the tree must be removed after <u>one or two growing seasons</u>.** The ties may girdle and kill the tree if not removed. Protective staking may remain indefinitely as long as all ties have been removed.



<u>Figure 1</u>

Pruning

- At planting, pruning should only be done to remove rubbing, dead, diseased, or broken branches. By maintaining the leaf surface the tree will have a faster recovery after planting. When pruning, always cut a branch back to a point where one branch or twig attaches to another (see Figure 2) or all the way back to the main trunk to the branch collar (see Figures 3, 4, & 5). The proper place to prune branches is just outside of the branch collar. Making the proper pruning cut allows the tree to effectively seal and compartmentalize the wound.

Figure 2

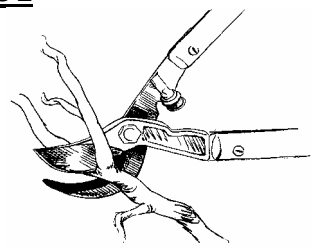
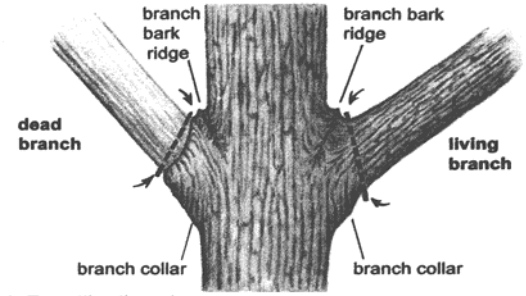
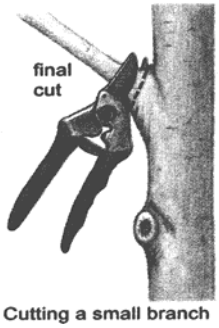


Figure 3



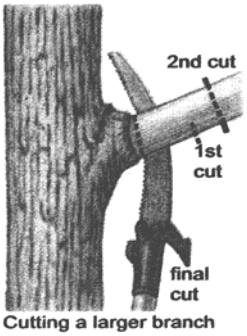
A. Targetting the cut

Figure 4



B. Cutting a small branch

Figure 5

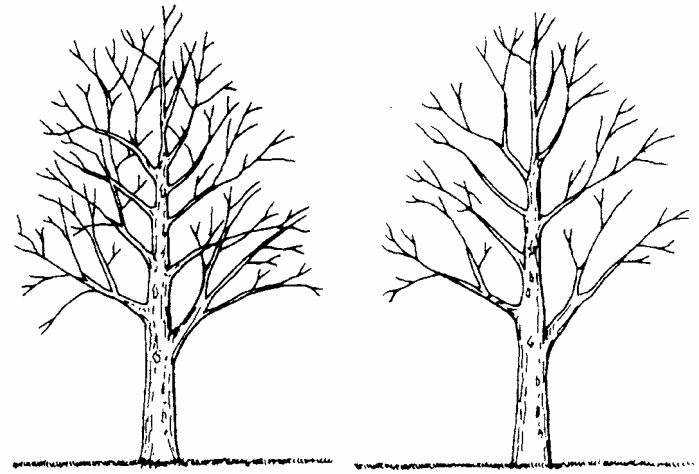


C. Cutting a larger branch

A central leader or trunk or well-spaced multiple trunks (whichever is most appropriate for the species) should be maintained. If there are multiple leaders where there should only be one, remove the undesired leaders leaving one strong central leader. Leave branches on the lower portion of the trunk when possible to increase trunk taper and stability.

- During the first three years after pruning, a good scaffold branch structure should be developed if the tree is not doing so naturally (see Figures 6 & 7). Improved scaffold structure occurs when branches that cross or rub, have included bark (see Figure 8), or interfere with the main scaffold branches are removed. For trees that will reach or exceed 40' in total height, scaffold branches should be spaced approximately 18" apart. For trees remaining smaller than 40' in total height, maintaining 6-8" spacing of scaffold branches should be sufficient. During this three-year period no more than 20% of the total canopy should be removed over a period of 3-4 years. Removing too much of the canopy/leaf surface will stress the tree. The stress may force the tree to produce undesirable sucker growth.

Figure 6



Before proper pruning *After proper pruning*

Figure 7

Figure A on the left shows ideal spacing of the scaffold branches. Figure B on the right shows numerous branches originating from the same location. This could cause severe breakage and damage to the tree as the branches grow longer and accumulate more and more weight away from the stem.

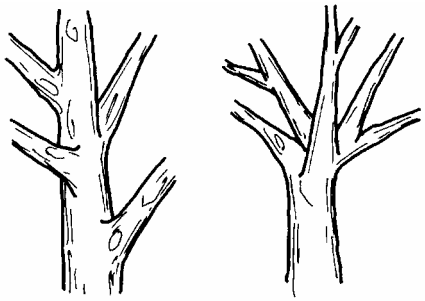
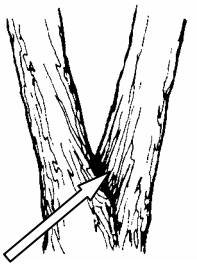


Fig. A **Fig. B**

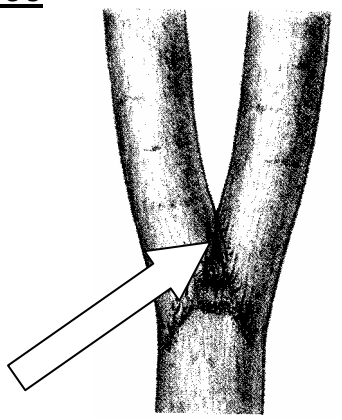
Figure 8



Included bark

- After the third year the development of the branch scaffold structure should be maintained by continuing to remove dead, diseased, interfering, split, or broken branches. Branches with narrow angles of attachment should also be removed to avoid future damage (see Figure 9). When branches are growing upright and close to each other very weak, narrow angles of attachment can develop. Lower branches should be removed when they interfere with human activities. Again, no more than 20% of the total canopy should be removed over a period of 3-4 years.

Figure 9



Point of very weak branch attachment

Timing of Pruning

Prepared by Kristin Ramstad
Oregon Department of Forestry

A tree's energy reserves fluctuate annually-

- **A General Rule:** Prune when the tree has good reserves; avoid pruning when the tree has low reserves (either due to annual cycle or poor health).
- When reserves are high the tree forms good barriers against pests and diseases.

In late winter (February), a tree's reserves are at their highest (having been stored all winter).

- Prune non-flowering hardwoods prior to leaf budbreak after frost danger is gone.
- This is a good time to prune watersprout buds.
- Winter pruning is sometimes best for certain trees that are prone to insect-borne disease such as elms and oaks. Remember to disinfect tools after each cut.
- Ornamental trees that flower in very early spring should be pruned just **after** their flowers fade, usually in March. This is before the tree has leafed out since flower energy is stored in buds from the previous season.

In spring (late-March through April) leaves begin to flush out…., new wood begins to form on branches then new wood forms around the trunk.

- **The worst time to prune is when leaves are in the process of forming or have just formed since the tree's reserves are very low.**
- During the first flush of growth the cambium is loose and prone to tearing.

In early to mid-summer (June-July) leaves have renewed much of the tree's energy levels, but trees lack the energy that they had at winter's end.

- Pruning during this time results in regrowth that is not vigorous. At this time of year, pruning will have a dwarfing effect. Early summer is considered to be a good time to cut out suckers and watersprouts that were not previously removed.
  - Plants prone to suckering/sprouting include:
    -magnolia
    -dogwood
    -witch-hazel
    -fig
    -parrotia
    filbert
  - Plants prone to bleeding include:
    -maple
    -dogwood
    -pines
    -birches
    -walnut

- Make sure the tree is healthy and well-watered. **Avoid pruning during a drought.** Too much leaf area removed may result in sun-scald.

Late summer and early fall are not good times to prune living tissue. Results can include:

- Slower callusing
- Sporulating fungi
- Stimulation of new green, very sensitive :flush" that can be killed by cold weather
- Interference with food (energy) storage necessary for growth during the next spring.

Deadwood pruning can be done any time of year.

NEVER REMOVE MORE THAN 15-20% OF THE LEAF AREA (OR POTENTIAL LEAF AREA) IN ONE YEAR.

- **DO NOT TOP TREES!** The definition of topping a tree according to the International Society of Arboriculture (ISA) is "the indiscriminate cutting back of tree branches to stubs or lateral branches that are not large enough to assume the terminal role." The common reason for topping trees is to reduce the overall size of the tree. Topping a tree will increase the chance that large branches will fail. Topping is **not** a proper method for reducing the height or size of a tree. The ISA provides reasons for not topping trees. The reasons include:
    - **Topping stresses trees.** When trees are topped 50-100% of the crown is cut away. When so much leaf surface is removed from the tree enormous amounts of stress will set in since leaves are the "food factories" for the tree. The tree can essentially starve. The result of the tree trying to recover will be very rapid growth of numerous shoots that will produce a new set of leaves. Producing these new leaves will require a lot of energy that can stress the tree. A stressed tree is more vulnerable to insect and disease attacks. The tree's defenses will be strained so the possibility of the tree succumbing to the insect or disease attack is greatly increased.
    - **Topping causes hazards.** Because the tree tries to replace the missing leaf surface so quickly, numerous fast growing shoots are produced. These shoots are weak branches that are only attached to the tree at the surface of the stem as opposed to normal branches which develop in a "socket" as the tree stem grows laterally and vertically. The new shoots grow quickly and produce a large amount of leaves. The weight of the new leaves, the long length of the new shoots, the weak attachment of the shoots to the tree, and many other factors such as ice, wind, or rain, combine to make the tree very hazardous and unsafe.
    - **Topping causes decay.** The proper place to prune branches is just outside of the branch collar. Making the proper pruning cut allows the tree to effectively seal and compartmentalize the wound. Topping cuts are very indiscriminate and improperly located. Therefore, the tree

may not be able to compartmentalize the wound and decay will likely set in.

- **Topping may lead to sun-scald.** One of the many functions of leaves is to shield the bark in the crown from the hot summer sun. When the leaves are removed the thin bark is exposed to high levels of heat. The tissues below the bark may burn due to the lack of protection from the thin bark. Cankers, bark splitting, and branch dieback can occur.
- **Topping is ugly.** One of the benefits of trees is their aesthetic beauty. The branch structure, leaf color, and their overall shapes provide natural splendor. Topping removes the ends of the branches leaving mostly leafless stubs. When the tree attempts to recover, the result is a thick mass of leaves having no natural form or structure. A topped tree never fully regains its natural form.
- **Topping is expensive.** Since the tree produces very fast-growing shoots, the canopy will be back to its original size in much less time than if the tree was properly pruned. The long unstable shoots become a liability as well since they are weakly attached to the tree and break off very easily. Finally, topping can reduce the value of the property since the tree has become a hazard and has been so badly deformed. A healthy tree can increase property value up to 20%. A tree that has been topped can simply be a looming liability and expense.
- **Topping is unprofessional.** Topping is considered to be one of the most unprofessional acts that a tree care professional can perform. The ISA states that "topping is perhaps the most harmful tree pruning practice known." In the 3rd Edition of the textbook *Arboriculture* Richard W. Harris, James R. Clark, & Nelda P. Matheny include in their definition of topping that the practice is "generally considered poor practice." In a brochure by the United States Forest Service entitled "How to Prune Trees" it is stated that 'topping and tipping are pruning practices that harm trees and should not be used." The brochure goes on to say that topping and tipping "practices invariably result in the development of epicormic sprouts, or in the death of the cut branch back to the next lateral branch below. These epicormic sprouts are weakly attached to the stem and eventually will be supported by a decaying branch." All reputable and respected tree care practitioners understand the detrimental effects that topping has on the overall health and welfare of the tree. Any representative of a tree company who suggests topping as a remedy to any type of tree issue should not be allowed to perform tree care on your property. Additionally, the American National Standards Institute recommends only using tree-climbing spikes when a tree is being removed or an aerial rescue is required. Otherwise, tree-climbing spikes should always remain on the truck.

Selected References

American National Standards Institute (ANSI A-300). 1995. *American National Standard for Tree Care Operations- Tree, Shrub and Other Woody Plant Maintenance-Standard Practices.* New York, NY: American National Standards Institute.

Anderson, Jeff S. *Choosing the Right Tree for the Right Place: Street Tree Species Evaluation.* Public Works Department. City of Springfield, OR.

Bedker, Peter J., Mielke, Manfred E., O'Brien, Joseph G. 1995. Brochure. *How to Prune Trees*. United States Department of Agriculture, Forest Service, Northeastern Area. Radnor, PA.

Clark, James R., Harris, Richard W., Matheny, Nelda P. 1999. *Arboriculture Third Edition. Integrated Management of Landscape Trees, Shrubs, and Vines.* Upper Saddle River, NJ.

Gerhold, Henry D., Lacasse, Norman L., & Wandell, Willet N. 1993. *Street Tree Factsheets*. Penn State University, College of Agricultural Sciences. University Park, PA.

International Society of Arboriculture. 1995. Brochure. *Plant Health Care.* Savoy, IL.

International Society of Arboriculture. 1997. Brochure. *Pruning Mature Trees.* Savoy, IL.

International Society of Arboriculture. 1997. Brochure. *Pruning Young Trees.* Savoy, IL.

International Society of Arboriculture & The United States Department of Agriculture, Forest Service. 1995. Brochure. *New Tree Planting.* Savoy, IL.

International Society of Arboriculture & The United States Department of Agriculture, Forest Service. 1995. Brochure. *Tree Selection.* Savoy, IL.

SUNSET. 1992. *Western Garden Book.* Menlo Park, CA.

Tree List

Ash, Green
Fraxinus pennsylvanica

Height: 40 - 65’ **Spread:** 35-55’ **Growth**: Moderate
Min. Planting Strip Width: 6’+ **Size**: Large **Maintenance:** Low

Grows best in moist, well-drained soil. Straight trunk, oval crown, symmetrical, uniform branching. Leaves are 10-12” long with 5-9 bright green leaflets turning to yellow in the fall. Tolerates urban growing conditions including poorer soil. Male and female trees planted together will produce a heavy crop of messy seeds. Relatively pest-free and low maintenance. Transplants well. Can develop weak branch structure so susceptible to storm damage during snow, ice, and high wind. Plant between early fall and late winter.
Seedless varieties to consider: ‘Marshall’, ‘Summit’, ‘Urbanite’, ‘Patmore’, ‘Bergeson’, and ‘Emerald’. All have yellow to bronze red fall foliage, dense crowns, and very nice growth habits.

Ash, White
Fraxinus americana

Height: 50 - 80’ **Spread:** 40-70’ **Growth**: Fast
Min. Planting Strip Width: 6'+ **Size**: Large **Maintenance:** Low

Grows best in moist, well-drained soil. Straight trunk, oval crown, symmetrical, uniform branching. Leaves are 8-15” long with 5-9 dark green leaflets turning yellow to purple in the fall. Tolerates urban growing conditions including poorer soil. Female trees will produce fruit so do not plant male and female trees together since a heavy crop of messy seeds will occur. Relatively pest-free and low maintenance. Plant between early fall and late winter.
Seedless varieties to consider: ‘Autumn Applause’ and ‘Autumn Purple’ have long-lasting purple fall color. ‘Champaign County’ grows very densely, and has yellow-purple fall foliage. ‘Rosehill’ has bronze to red fall color. ‘Skyline’ has an upright, oval growth pattern, with brown and purple fall color.

Beech, American
Fagus grandifolia

Height: 70 - 90’ **Spread:** 35-55’ **Growth**: Moderate
Min. Planting Strip Width: 8’+ **Size**: Large **Maintenance:** Medium

Much less planted than the European beech since they are much harder to come by. Smooth gray bark with very dark, glossy green foliage that can be up to 5” long. Fall foliage turns reddish brown and leaves hang on well into winter. Grow well in most soils in full sun but may suffer in high wind and hot sun. Sun-scald may occur. Very sensitive to transplanting, root disturbance, and heat from road surfaces. Can attract woolly aphids, which produce a sticky honey-dew, when stressed. Harder to establish after planting but good siting and care should allow the American beech to survive quite well. Plant between early fall and late winter.

Beech, European
Fagus sylvatica

Height: 50 - 70’ **Spread:** 35-55' **Growth**: Moderate
Min. Planting Strip Width: 8’+ **Size**: Large **Maintenance:** High

Very similar to the American beech, the biggest difference being that the European beech has smaller leaves. Fall foliage turns reddish brown and leaves hang on well into winter. Grows well in moist soils in full sun but may suffer in high wind and hot sun. Sun-scald may occur. Sensitive to heat from road surfaces. Can attract woolly aphids, which produce a sticky honey-dew, when stressed. Harder to establish after planting but good siting and care should allow the European beech to survive quite well. Plant between early fall and late winter.
Varieties to consider: The ‘Asplenifolia’ has narrower leaves which give the tree a more delicate look. The ‘Atropunicea’ (copper beech, purple beech) has deep red or purple leaves. Very common but often sold as ‘Riversii’ or ‘Purpurea’. The ‘Fastigiata’ is a more narrow, upright tree that has an 8’ spread and can reach 35’ feet tall. The ‘Laciniata’ has narrow, deeply cut leaves.

Birch, Whitespire Japanese White
Betula platyphylla Var. japonica

Height: 40 - 50’ **Spread:** 15-25’ **Growth**: Moderate
Min. Planting Strip Width: 6’+ **Size**: Med.-Large **Maintenance:** High

Generally has a shorter service life as a street tree. Tolerant to heat and most urban stresses when younger. Poor tolerance to drought. Somewhat tolerant to Bronze Birch Borer, a serious pest. Limited availability. Dark green foliage turns yellow in the fall. Weak-wooded species that does respond well to pruning. Leaf-miners can be a problem in Oregon. Plant between early fall and late winter.

Blackgum
Nyssa sylvatica

Height: 30 - 60’ **Spread:** 20-40’ **Growth**: Moderate
Min. Planting Strip Width: 6’+ **Size**: Large **Maintenance:** Low

Ideal soil type is moist well-drained but will survive well in any soil type. Withstands urban stresses including poor drainage and drought. Sensitive to pollution and transplanting though. Straight trunk with horizontal branches. Spectacular fall colors ranging from bright yellow to hot red to orange. No serious insect or disease problems. Birds are attracted to inconspicuous bluish-black fruit. Plant between early fall and late winter.

Cherry, Flowering — **Height**: 20 - 40' — **Spread:** 5-35' — **Growth**: Moderate

Prunus sp. — **Min. Planting Strip Width:** 8'+ — **Size**: Small-Med — **Maintenance:** Low-Med.

There are numerous varieties of Cherry, some produce fleshy fruit of varying sizes and some do not. Cherries are best known for their beautiful spring flowers. Varieties that have very small fruit or are fruitless may be planted as a street tree. Cherries prefer full sun and fast-draining, aerated soil. Plant in raised beds where soil is clay. Heavy clay soil may cause root rot in winter. They withstand urban environment but when stressed they are susceptible to various insects, diseases, and viruses. Tent caterpillars invade the trees each year but rarely kill the tree. Generally short-lived: 20-25 years. Prune as little as possible removing only awkward, crossing, broken, or dead branches. Pinch back the early shoots to force better branching. Must have ample planting space since roots can cause various problems including sidewalk lifting and cracking. Plant between early fall and late winter.
Varieties to consider: '*Prunus sargentii*' (Columnar Sargent cherry) is a very upright growing tree that requires little maintenance. Foliage is dark green which turns orange in the fall. Deep rose flowers with very small black cherries. '*Prunus serrulata*' (Amanaogawa Oriental cherry) is a small tree reaching 20-25'. Ascending branches spread approximately 5-7'. Sensitive to pollution and susceptible to insects, viruses, and diseases. Very few small black cherries. '*Prunus serrulata*' (Kwanzan Oriental cherry) is well known as Washington, D.C. cherry blossom display every year. Fruitless variety with deep pink flowers.

Coffeetree Kentucky — **Height**: 55 - 75' — **Spread:** 45-65' — **Growth**: Mod.- Fast

Gymnocladus dioicus — **Min. Planting Strip Width:** 8'+ — **Size**: Large — **Maintenance:** Medium

Shade intolerant. Will tolerate a wide range of urban conditions including poor soil types, salt, drought, and heat. Mostly free of pest and disease problems. Recovers slowly when transplanted. Fruit is not fleshy and ranges from 4-10". Inconspicuous flowers are followed by 6-10"long flat, reddish brown pods containing hard black seeds. Leaves are 1 ½ to 3' long with 1-3" long leaflets. The leaves are pinkish in the early spring turning to deep green in later spring and summer then to yellow in the fall. Plant between early fall and late winter.

Dawn Redwood — **Height**: 65 - 90' — **Spread:** 25-40' — **Growth**: Rapid

Metasequioia glyptostroboides — **Min. Planting Strip Width:** 10'+ — **Size**: Large — **Maintenance:** Low

DECIDUOUS CONIFER. Resembles a coast redwood. The bright green leaves (needles) are soft and light to the touch. In the autumn the foliage turns bronze just before it falls. Grows best in moist well-drained soil. Tree becomes quite large at the base so ample planting space is required. Raising branch levels early on can reduce buttressing at tree base. Develops and maintains a very conical form.

Dogwood, Kousa — **Height**: 20 - 30' — **Spread:** 20-30' — **Growth**: Moderate

Cornus kousa — **Min. Planting Strip Width:** 3-4'+ — **Size**: Small — **Maintenance:** Medium

Delicate spreading limb structure. Blooms in June or July. Flowers occur in clusters (bracts) along the tops of the branches and they show above the leaves. Creamy white slender flowers turn pink along the edges. Small red fruit hangs below branches and occurs in October. Typically low branching but can be trained to grow more upright. Resistant to anthracnose, borers and drought. Tolerates urban stresses well. Plant between early fall and late winter.
Other *Cornus* Varieties to Consider: The *Cornus mas* (Cornelian Cherry dogwood) can show small yellow blossoms in February or March. Oval, shiny green leaves turning to yellow or red (depending on the form) in the fall. Autumn color is enhanced with clusters of small, bright scarlet fruit which birds love to eat. Tolerates poorer soil. Needs little maintenance. Can grow to 15-20'. The *Cornus nuttallii* (Pacific dogwood) is *native to the Pacific Northwest.* It first blooms white flowers in April or May then possibly again in September. Prefers good drainage, infrequent summer watering, and shade to avoid sun scald. Do not fertilize, prune (except for dead, broken, or crossing branches), or injure since the tree does not react well. Somewhat susceptible to anthracnose. In ideal conditions tree can reach 50' with a 20' spread. Branches are horizontal. Dark green oval leaves with gray-green underside turn to beautiful red, yellow, or pink in the fall. The flower bracts are rounded with pointy tips. White or light pink flowers. Fruit is red to orange and small.

Elm, Lacebark or Chinese — **Height**: 50 - 75' — **Spread:** 30-75' — **Growth**: Fast

Ulmus parvifolia — **Min. Planting Strip Width:** 8'+ — **Size**: Large — **Maintenance:** Medium

Do not confuse with Ulmus pumila (Siberian elm)!!! Highly resistant to DED, PN, and elm leaf beetle. Tolerates urban stresses very well including compacted, droughty, wet, acidic, and alkaline soils. This tree will disrupt sidewalks and roads so plant in ample space. Transplants well, preferably in full to partial sun. Grows very quickly for first few years. Branches are spreading, then arching, and eventually begin to weep towards the ground. Leathery dark green leaves turn yellow in the fall. Very few pests or diseases. Plant between early fall and late winter.
Varieties to consider: The *Ulmus parvifolia* 'Dynasty' (Dynasty Lacebark elm) or the *Ulmus parvifolia* 'Ohio' (Ohio Lacebark elm). Elm hybrids to consider: These hybrids are not as "vase" shaped as the species. They are resistant, but not immune, to DED. Frontier Hybrid elm, Homestead Hybrid elm, Pioneer Hybrid elm, Regal Hybrid elm, Sapporo Autumn Gold Hybrid elm, and the Urban Hybrid elm.

Ginkgo — **Height**: 50 - 80' — **Spread:** 40-80' — **Growth**: Moderate

Ginkgo biloba — **Min. Planting Strip Width:** 6'+ — **Size**: Large — **Maintenance:** Low

PLANT MALE TREES ONLY!! Female trees produce a foul smelling fruit. Graceful, spreading, ascending branches with dark green leaves turning to bright yellow in the fall. Generally free of insect and disease problems. Prefers deep well-drained soil but will tolerate a wide range of soil types. Tolerates tough urban conditions including heat, pollution, drought, and salt. Plant between early fall and late winter.
Varieties to consider: The 'Autumn Gold' has more symmetrical growth. The 'Lakeview' has a more compact, conical form. The 'Princeton Sentry' has a narrow, dense form.

Goldenrain Tree — **Height**: 25 - 40' — **Spread:** 25-40' — **Growth**: Moderate

Koelreuteria paniculata — **Min. Planting Strip Width:** 4-6'+ — **Size**: Small-Med. — **Maintenance:** Medium

Adaptable to a wide range of urban conditions including various soil types, heat, drought, pollution, and compacted soil. Needs regular watering when young. Prune when young for improved shape. Leaves can reach 15" with 7-15 small leaflets. Yellow flowers are in clusters reaching 8-14". Small fruit can hang on through winter becoming brown in color. Plant between early fall and late winter.

Hackberry, Common — **Height**: 40 - 50' — **Spread:** 30-40' — **Growth**: Moderate

Celtis occidentalis — **Min. Planting Strip Width:** 6'+ — **Size**: Large — **Maintenance:** Low

Related to the elms. Deep rooting so sidewalk heaving is rarely a problem. Branches are spreading with bright green, small leaves. Tree does not leaf out until April or later. Very few pest and disease problems. Tolerant to urban conditions including soil compaction, pollution, salt, drought, heat, and full sun. Bark is naturally very corky. Tend to be long-lived. Small, inconspicuous fruit. Plant in late winter or spring but maintain watering cycle throughout summer months for first year or two after planting.
Varieties to consider: The 'All Seasons Sugar' and the 'Prairie Pride' are very similar. They have upright growth with a strong central leader.

Honeylocust — **Height**: 30 - 75' — **Spread:** 35-70' — **Growth**: Rapid

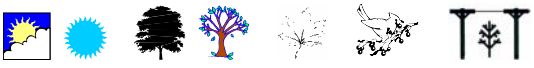
Gleditsia triancanthos 'var. inermis' — **Min. Planting Strip Width:** 6'+ — **Size**: Large — **Maintenance:** Medium

Thornless and usually fruitless. Upright trunk with symmetric, dense, spreading crown. Leaves are divided into green delicate leaflets turning yellow in the fall. Tends to leaf out later in the season yet loses its autumn leaves early. Adapts to a wide range of urban conditions including soil types, drought, pollution, heat, soil compaction, and salt. Plant between early fall and late winter.
Varieties to consider: The 'Imperial' tends to be a medium sized tree reaching 35' or so. It also tends to have denser foliage giving more shade. The 'Moraine' has branches that angle upward then outward giving a broader canopy. This variety is also more susceptible to wind breakage. The 'Shademaster' is fast growing and more upright than the 'Moraine'. Not as prone to wind breakage. The 'Skyline' has a more pyramidal and symmetrical shape. The 'Sunburst' has very golden yellow foliage. Susceptible to wind breakage. Very showy.

Hophornbeam, American — **Height**: 30 - 40' — **Spread:** 20-30' — **Growth**: Slow

Ostrya virgiana — **Min. Planting Strip Width:** 4-6'+ — **Size**: Medium — **Maintenance:** Low

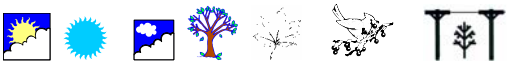
Prefers well-drained, moist, slightly acidic soil. No serious pest or disease problems. Prune in winter or early spring. Green foliage turns yellow in the fall. Does not tolerate the harsher urban stresses. Plant between early fall and late winter.



Hornbeam, American
Carpinus caroliana

Height: 20 - 35' **Spread:** 20-35' **Growth**: Moderate
Min. Planting Strip Width: 4-6'+ **Size**: Small-Med. **Maintenance:** Low

Small single or multi-stemmed tree. Grows best in wet areas. Transplant carefully. Wood is very heavy and hard. Bark is smooth and gray. Sterilize pruning tools before pruning to avoid tree's tendency to canker. Sensitive to harsh urban conditions. Plant between early fall and late winter.



Hornbeam, European
Carpinus betulus

Height: 30 - 40' **Spread:** 20-30' **Growth**: Moderate
Min. Planting Strip Width: 4-6'+ **Size**: Small-Med. **Maintenance:** Low

Tolerates a wide range of soil types and urban conditions including pollution, heat, drought, soil types, and soil compaction. Upright growth with a dense crown. Dark green foliage turns yellow in the fall or dark red in very cold winters. Susceptible to scale infestations. Plant between early fall and late winter.
Variety to consider: The 'Fastigiata' is the variety most commonly sold.

Japanese Snowbell
Styrax japonicus

Height: 20 - 30' **Spread:** 10-25' **Growth**: Slow-Mod.
Min. Planting Strip Width: 4'+ **Size**: Small-Med. **Maintenance:** Medium

Slender, graceful trunk. Horizontal branching dark green leaves turning red to yellow in the fall. White flowers hang down from branches. Needs good well-drained soil with plenty of water. Prune to maintain shape. Non-aggressive roots. A very nice tree. Plant between early fall and late winter.

Katsura Tree
Cercidiphyllum japonicum

Height: 20 - 55' **Spread:** 25-50' **Growth**: Slow
Min. Planting Strip Width: 4-6'+ **Size**: Small-Med. **Maintenance:** Low

Varying growth habits ranging from a single stem to multi-stemmed. Intolerant of drought and compacted soils. Recovers slowly after transplant. Keep watered until well established. Protect from hot, full sun and dry winds. Prefers moist, rich soil. Foliage is purplish turning to bluish-green, yellow-apricot, or red in the fall. Fall colors tend be better if tree is watered infrequently at the end of summer. Plant between early fall and late winter.

Lilac, Japanese Tree — **Height**: 20 - 30' — **Spread:** 15-25' — **Growth**: Moderate

Syringa reticulata — **Min. Planting Strip Width:** 3-4'+ — **Size**: Small — **Maintenance:** Low

Very large, showy creamy-white flowers. Tolerant of urban conditions but prefers well-drained, alkaline soil. When plants are coming into bloom do not limit watering. Remove spent flower clusters just above point where buds are forming. Do not prune heavily since a loss of the next year's bloom may occur. Relatively pest free. Prefers full sun. Transplants readily. Straight trunk with upright growth. Small fruit. Plant between early fall and late winter.
Varieties to consider: 'Ivory Silk', 'Regent Japanese', and 'Summer Snow'.

Linden, American — **Height**: 50 - 70' — **Spread:** 20-35' — **Growth**: Moderate

Tilia americana — **Min. Planting Strip Width:** 6'+ — **Size**: Large — **Maintenance:** Medium

Upright, uniform branches with strong central leader. Adapts well to urban conditions but prefers deep rich soil with lots of water. Tends to produce less sticky honeydew during aphid outbreak than little-leaf linden. Depends on the species of aphid and the intensity of the outbreak. Straight trunk. Heart shaped, dark green leaves and fragrant yellow flowers. Flowers bloom in June or July.
Varieties to consider: 'Redmond' is pyramidal with glossy foliage. 'Legend' is somewhat sensitive to air pollution. Shade tolerant but grows best in full sun. Tolerates drier sites. Plant between early fall and late winter.

Magnolia, Cucumbertree — **Height**: 50 - 70 — **Spread:** 30-50' — **Growth**: Moderate

Magnolia acuminata — **Min. Planting Strip Width:** 6'+ — **Size**: Large — **Maintenance:** Medium

Deciduous. Strong central leader with conical form. Sensitive to drought, poor drainage, and *Verticillium* wilt. Recommended to be planted in a park setting. Small greenish yellow flowers appear after leaves. Blooms after age 12. Plant between early fall and late winter.

Magnolia, Star — **Height**: 10 - 20' — **Spread:** 10-15' — **Growth**: Slow

Magnolia stellata — **Min. Planting Strip Width:** 3-4'+ — **Size**: Small — **Maintenance:** Medium

Deciduous. Very attractive white flowers blooming early in late winter or early spring. Recovers slowly after transplanting. Tolerates urban conditions. Prefers moist, well-drained soil. Has fleshy root system so recovery from transplant may be slow. Cold injury may damage flower buds and petals. Canopy is dense so may serve as a screen. Plant between early fall and late winter.
Other magnolias to consider: 'Merrill magnolia' is very similar to 'Star magnolia'. 'Galaxy magnolia' has pinkish flowers that can be messy when they drop. Does not have a strong central leader but can be trained to have one. Prefers full sun, moist well-drained, acidic soil. Also recovers slowly after transplanting.

Maple, Black — **Height**: 50 - 65' — **Spread:** 20-30' — **Growth**: Moderate

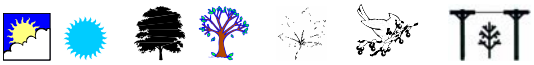
Acer nigrum — **Min. Planting Strip Width:** 6'+ — **Size**: Large — **Maintenance:** Low

Not tolerant of urban stresses. Adapts well to the suburban areas. Sensitive to poor soil, heat, heavy traffic, road salt, soil compaction, and pollution. Actually tolerates drought. Light green leaves turn yellow in the fall. Maples tend to have weak wood. Plant between early fall and late winter.
Variety to consider: 'Greencolumn' can reach 65' tall and 25' wide.

Maple, Hedge — **Height**: 25 - 40' — **Spread:** 25-40' — **Growth**: Slow

Acer campestre — **Min. Planting Strip Width:** 4-6'+ — **Size**: Medium — **Maintenance:** Low

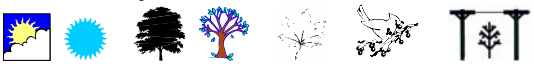
Forms a dense, compact crown. Tolerates dry soils, soil compaction, and pollution. Dark green leaves turn yellow in the fall. Trees transplant well. Grows well in the Pacific Northwest. Plant between early fall and late winter.
Variety to consider: The 'Queen Elizabeth' has glossier foliage with a more upright growth habit.



Maple, Paperbark — **Height**: 25 - 35' — **Spread:** 15-30' — **Growth**: Moderate

Acer griseum — **Min. Planting Strip Width:** 4-6'+ — **Size**: Medium — **Maintenance:** Low

Use as a street tree only in areas where road traffic is light. Trees tend to be very sensitive to urban stresses. Prefers moist, well-drained soil. Tends to suffer from soil compaction and drought. Exfoliating reddish bark is very attractive. Branches angle upward. Trees leaf out later in the spring to become dark green. Fall color is a brilliant red/bronze. Plant between early fall and late winter.



Maple, Sugar — **Height**: 40 - 80' — **Spread:** 30-60' — **Growth**: Moderate

Acer saccharum — **Min. Planting Strip Width:** 6'+ — **Size**: Large — **Maintenance:** Low

More sensitive to urban conditions than red maple. Sensitive to road salt, heat, soil compaction, drought, *Verticillium* wilt, and various soil types. Prefers moist, well-drained soil. Avoid streets with heavy traffic. Adapts well to suburban areas. A very attractive street tree. Sugar maples are known for their brilliant fall colors. One thing to remember, the colder the climate the more brilliant the fall colors will be. Plant between early fall and late winter.
Varieties to consider: The 'Bonfire' is a bit more tolerant to heat in the urban environment. A larger planting space is recommended since the crown and roots spread quickly and extensively. Very bright orange-red fall color. The 'Commemoration' has a denser crown with dark green foliage turning orange or light red in the fall. 'Goldspire' has a more narrow compact crown usually only reaching to 15-20' wide. Fall foliage is bright yellow. The 'Green Mountain' variety is more drought and heat tolerant than other sugar maples. Has upright uniform growth habits. Dark green foliage turns yellow, apricot, or red in the fall. 'Legacy' rapidly develops a dense crown after becoming established. Tolerates heat and high winds (indicates deeper, more extensive rooting). Also tolerates drought and heat scorch in suburban areas. Dark green foliage turns to orange, light red, or apricot in the fall. Tends to have a more compact crown spreading 30-35'. 'Seneca Chief' is a vigorous grower with a more compact growth habit. Dark green foliage turns to bright orange-yellow in the fall.

Maple, Tatarian — **Height**: 15 - 25' — **Spread:** 15-25' — **Growth**: Moderate

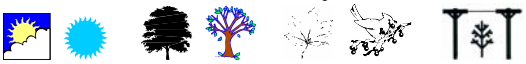
Acer tataricum — **Min. Planting Strip Width:** 3-4'+ — **Size**: Small — **Maintenance:** Low

Tolerant of urban conditions including heat and drought. Green foliage turns yellow to bright red in the fall. Plant between early fall and late winter.

Maple, Trident — **Height**: 20 - 30' — **Spread:** 20-30' — **Growth**: Moderate

Acer buergeranum — **Min. Planting Strip Width:** 4-6'+ — **Size**: Medium — **Maintenance:** low

Tolerant of drought and urban stresses. Low branching. Green foliage turns yellow-orange in the fall. Plant between early fall and late winter.



Oak, Northern Red — **Height**: 60 - 80' — **Spread:** 50-70' — **Growth**: Moderate

Quercus rubra — **Min. Planting Strip Width:** 6'+ — **Size**: Large — **Maintenance:** Low

Has broad spreading branches and a round crown. Tolerates urban conditions including compacted soil, salt, pollution, and heat. Prefers deep fertile soil with plenty of water. Prune when dormant to avoid oak wilt disease carriers. Roots tend to grow deeper than other trees. Root depth is affected by soil type though. Plant between early fall and late winter.

Oak, Oregon White — **Height**: 40 - 90' — **Spread:** 30-70' — **Growth**: Moderate

Quercus garryana — **Min. Planting Strip Width:** 6'+ — **Size**: Large — **Maintenance:** Low

Wide open crown with twisted-looking branches. Dark green leaves with a rust color on lower surface. Non-aggressive root system tends to grow deep in the soil. Leaves tend to hang on well into autumn. Very sensitive to transplanting and root disturbance. Plant between early fall and late winter.

Oak, Pin — **Height**: 55 - 75' — **Spread:** 40-55' — **Growth**: Moderate

Quercus palustris — **Min. Planting Strip Width:** 6'+ — **Size**: Large — **Maintenance:** Medium

Upper branches tend to grow upright while lowest branches droop towards ground so *pruning will be required to maintain clearance above sidewalks and roadways*. Prefers wet, acidic, fertile soil. Leaves tend to become chlorotic in alkaline soil. Less tolerant of drought than other oaks. Dark green leaves turn to yellow or red in the fall. Usually has strong central leader making the tree grow upright and tall. Leaves hang on well into fall and sometimes into winter. Plant between early fall and late winter.

Oak, Sawtooth — **Height**: 40 - 50' — **Spread:** 35-55' — **Growth**: Moderate

Quercus acutissima — **Min. Planting Strip Width:** 6'+ — **Size**: Large — **Maintenance:** Low

Tends to have wide branching pattern. Tolerates city and urban growing conditions with few insect and disease problems. Adapts to a wide range of soil types but prefers acidic, well-drained soil. Transplants readily. Tolerates heat and some drought. Plant between early fall and late winter.

Oak, Shingle — **Height**: 40 - 65' — **Spread:** 40-70' — **Growth**: Moderate

Quercus imbricaria — **Min. Planting Strip Width:** 6'+ — **Size**: Large — **Maintenance:** Medium

Tolerates city and urban growing conditions. Prefers moist, acidic soil but can tolerate a wide variety. Transplants well. Lower branches tend to droop so pruning will be required to maintain clearance. Plant between early fall and late winter.

Oak, Shumard — **Height**: 60 - 80' — **Spread:** 45-65' — **Growth**: Moderate

Quercus shumardii — **Min. Planting Strip Width:** 6'+ — **Size**: Large — **Maintenance:** Low

Tolerates urban growing conditions including drought, pollution, heat, soil compaction, and heavy traffic. Prefers well-drained moist soil. Not as sensitive to iron deficiencies in the soil as many other oaks. Fall color is yellow to red. Plant between early fall and late winter.

Oak, Swamp White
Quercus bicolor

Height: 40 - 60' **Spread:** 50-80' **Growth**: Moderate
Min. Planting Strip Width: 6'+ **Size**: Large **Maintenance:** Low

Prefers swampy areas but will actually tolerate drought, salt, and soil compaction. Thrives though in acidic, wet to moist, fertile soil. Transplants readily. Bark of trunk and branches flakes off in scales. Leaves tend to hang on into late autumn. Plant between early fall and late winter.

Oak, Willow
Quercus phellos

Height: 55 - 75' **Spread:** 45-60' **Growth**: Moderate
Min. Planting Strip Width: 6'+ **Size**: Large **Maintenance:** Low

Very similar to Pin oak but lower branches do not droop. Slender, delicate leaves resemble willow leaves, unlike any other common oak. Fall foliage turns to yellow and may hang on into late autumn. Prefers wet-moist, acidic soil but tolerates various soil types and other urban growing conditions. Plant between early fall and late winter.

Pagodatree (a.k.a. Scholartree)
Sophora japonica

Height: 40 - 70' **Spread:** 40-70' **Growth**: Moderate
Min. Planting Strip Width: 6'+ **Size**: Med.-Large **Maintenance:** Medium

Tolerates urban stresses including heat, drought, and pollution. Adapts to a wide range of soil types. Very few insect and disease problems. Very susceptible to storm damage during snow, ice, and high wind. Flowers in late summer, July-September. Flowers are long creamy-white clusters. Leaves are divided into 7-17 small oval leaflets. Transplant in spring.
Varieties to consider: The 'Princeton Upright' is a bit more compact yet more upright. Flowers are a bit showier than the species. The 'Regent' has the most superior flowers and better tolerance of urban conditions. Upright and uniform growth habits. Plant between early fall and late winter.

Pear, Callery
Pyrus calleryana

Height: 35 - 50' **Spread:** 15-35' **Growth**: Rapid
Min. Planting Strip Width: 4-6'+ **Size**: Medium **Maintenance:** Medium

Horizontal branch structure of certain cultivars makes some pear trees less susceptible to wind damage. **Avoid 'Bradford' since there are extremely high incidences of severe storm damage due mainly to poor branch structure.** Adapts very well to most urban sites including various soil types, pollution, drought, heat, and compacted soil. Prune when young to develop scaffold branches and continue pruning to keep canopy thinned out. Very glossy dark green leaves turning red to yellow in the fall. White flowers occur in clusters and they bloom early in the year. Fairly resistant to fireblight. Plant between early fall and late winter.
Varieties to Consider: The 'Aristocrat' has white flowers and very glossy leaves. The 'Autumn Blaze' has dark green leaves that turn red-orange in the fall. Blossoms are pinkish-white. The 'Chanticleer' (a.k.a 'Cleveland Select') probably suffers the least from wind damage. Glossy green leaves turn a brilliant gold-red to plum color in the fall. White flowers.

Redbud — **Height**: 15 - 25' — **Spread:** 10-25' — **Growth**: Moderate

Cercis — **Min. Planting Strip Width:** 4-6' — **Size**: Small-Med. — **Maintenance:** Low

Early spring flowers are pea-shaped and occur in clusters. Blossoms usually occur on bare twigs. Leaves are broad and rounded having a heart-shape at the base. Fall color occurs after first frost. Very good urban trees. Plant between early fall and late winter.
Varieties to Consider: 'Eastern redbud' (*Cercis canadensis*) grows quickly and becomes large where adapted, up to 35'. Most likely *Cercis* to have a tree form. Small rosy pink flowers occur in early spring on bare branches. Also consider 'Forest Pansy' which has purple foliage, 'Oklahoma' which has wine red flowers and thick, "heat resistant" leaves, 'Plena' which has double flowers, or 'Rubye Atkinson' which has pure pink flowers. The 'Western redbud' tends to remain a shrub but may develop tree form. Usually mult-stemmed. Has year-round appeal. In the spring it delivers a 3-week display of beautiful magenta flowers. The summer foliage is blue green interspersed with newly forming magenta seed pods. In fall the whole plant turns yellow or red. In winter the bare branches hold reddish brown seed pods. Grows well in dry areas. Will have a very showy spring display of flowers where winter temperatures drop below 28°F. Resistant to oak root fungus.

Serviceberry — **Height**: 15 - 30' — **Spread:** 12-28' — **Growth**: Moderate

Amelanchier — **Min. Planting Strip Width:** 4-6'+ — **Size**: Small — **Maintenance:** Low

Small tree/shrub. Drooping clusters of white or pinkish flowers occur in early spring but do not last for very long. New foliage is purplish turns deep green then yellow or red in the fall. Birds like small blue fruits. Roots are not aggressive so sidewalk damage is not an issue. Somewhat sensitive to drought, soil compaction, and air pollution. Prefers moist, well-drained, acidic soil. Recovers slowly after transplanting.
Varieties to Consider: *Amelanchier laevis* 'Cumulus' and 'Majestic' are suitable for a wide range of planting sites. 'Cumulus' has good growth habit and attractive flowers. 'Majestic' tends to remain in shrub form. *Amelanchier x grandiflora* 'Autumn Brilliance', 'Princess Diana', 'Robin Hill', and 'Tradition' all have good growth habits, attractive flowers, and nice fall foliage. *Amelanchier alnifolia* 'Saskatoon' is native to the mountainous parts of the west. Grows to approximately 20 feet.

Zelkova — **Height**: 50 - 70' — **Spread:** 35-55' — **Growth**: Rapid

Zelkova serrata — **Min. Planting Strip Width:** 6'+ — **Size**: Large — **Maintenance:** Low

A good shade tree often substituted for the American elm due to similar leaves and mature size. Ascending graceful branches. Prune branches to reduce weight and control form to avoid V-shaped crotches which can split with too much weight on the branches. Susceptible to crotch cankers. Transplants readily into various types of soil. Tolerates urban conditions well including soil compaction, pollution, drought, heat, and varying pH levels in the soil. May be susceptible to elm leaf beetle.
Varieties to Consider: 'Green vase', Halka', and 'Village Green'. 'Halka' is a smaller tree usually reaching only 45' at maturity. 'Village Green' has a broader shape.

Acknowledgements

Thank you to everyone for their contributions, large and small, in helping me create and complete this Street Tree List:

Nancy Lof	Information Processing Guru, City of Tigard
Kathy Kaatz	Program Manager, City of Tigard
Steve Martin	Parks Supervisor, City of Tigard
John Roy	Property Manager, City of Tigard
David Cory	Pruett Tree & Landscaping
Mike Galvin	Maryland Department of Natural Resources – Forest Service
Rob Crouch	Urban Forestry Department, City of Portland

Selected References

Anderson, Jeff S. *Choosing the Right Tree for the Right Place: Street Tree Species Evaluation.* Public Works Department. City of Springfield, OR.

Gerhold, Henry D., Lacasse, Norman L., & Wandell, Willet N. 1993. *Street Tree Factsheets.* Penn State University, College of Agricultural Sciences. University Park, PA.

Maul, Jerry. 1999. *Southwestern Oregon Tree Selection Guide for Coos, Curry, Douglas, Jackson, and Josephine Counties.* Oregon State University Extension Service. Corvallis, OR.

SUNSET. 1992. *Western Garden Book.* Menlo Park, CA.